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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of:

Gregory L. Slaughter, et al.

Serial No.: 09/660,563

Filed: September, 12, 2000

For: MECHANISM AND APPARATUS
FOR ACCESSING AND
ADDRESSING SERVICES IN A
DISTRIBUTED COMPUTING
ENVIRONMENT

§ Group Art Unit: 2153
§
§ Examiner: Lesniewski, Victor D.
§
§ Atty. Dkt. No.: 5181-64900
§ P4980

CERTIFICATE OF MAILING 37 C.F.R. § 1.8	
I hereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date indicated below:	
Robert C. Kowert Name of Registered Representative	
March 8, 2006 Date	 Signature

APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir/Madam:

Further to the Notice of Appeal filed January 18, 2006, Appellants present this Appeal Brief. Appellants respectfully request that the Board of Patent Appeals and Interferences consider this appeal.

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I. REAL PARTY IN INTEREST

As evidenced by the assignment recorded at Reel/Frame 011099/0750, the subject application is owned by Sun Microsystems, Inc., a corporation organized and existing under and by virtue of the laws of the State of Delaware, and now having its principal place of business at 4150 Network Circle, Santa Clara, CA 95054.

II. RELATED APPEALS AND INTERFERENCES

No other appeals, interferences or judicial proceedings are known which would be related to, directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

Claims 1-30 are pending and rejected. The rejection of claims 1-30 is being appealed. A copy of claims 1-30 is included in the Claims Appendix hereto.

IV. STATUS OF AMENDMENTS

No amendments to the claims have been submitted subsequent to the final rejection.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Typically, traditional networks are complex to set up, expand and manage. Also, certain intelligent devices may not support the necessary interfaces to communicate on a given network. The art has sought for a simple way to connect various types of intelligent devices to allow for communication and sharing of resources while avoiding the interoperability and complex configuration problems existing in conventional networks. Various technologies exist for improving the addition of devices to a network. For example, many modern I/O buses, such as the Universal Serial Bus, 1394 and PCI, support plug and play or dynamic discovery protocols to simplify the addition of a new

device on the bus. However, these solutions are limited to specific peripheral buses and are not suitable for general networks.

Independent claim 1 is directed to a method for a client to communicate with a service in a distributed computing environment. A client may read an advertisement from a space that includes a network-addressable storage location. A distributed computing environment may rely upon “spaces” or object repositories to store advertisements from services. *See, e.g.*, p. 14, line 3 – p. 15, line 6; and p. 29, lines 8-24. Service providers may advertise services in such a space. Client may locate the advertisements in a space and use the information provided in the service advertisement to access the services. For example, a client may utilize a discovery service to locate a space and/or advertisements on a space. *See, e.g.*, p. 29, line 26 – p. 30, line 11. A service advertisement may include a Uniform Resource Identifier (URI) that specifies a network address at which a service may be accessed. *See, e.g.*, p. 15, line 8 – p. 16, line 10.

An advertisement may also include a schema that specifies messages usable to invoke one or more functions of the service. For example, a service advertisement may include an XML schema specifying a set of message that clients of the service may send to the service to invoke functionality provided by the service. Thus, a schema may define a client-service interface. Together, the URI and schema in an advertisement may indicate how to address and access the service. *See, e.g.*, p. 18, lines 1-21; p. 32, lines 9-18; and p. 34, lines 4-18. After reading the advertisement from the space, the client may access the service by sending a message specified in the schema to the URI from the advertisement. *See also*, FIGs. 6, 8, 9, 11b, 15, 18, 22, 31, 32B, 38, 44a-g, 45, 48; p. 15, lines 8-24; p. 29, lines 8-24; p. 31, line 19 – p. 32, line 7; p. 36, lines 1-13; and p. 38, line 20-27.

Independent claim 11 is directed to a system including a client and a service. The client locates an advertisement for the service in space and uses information from the space to access the service similarly as described above regarding claim 1. Please see the

discussion above regarding claim 1 for a more detailed description of examples of how a client may locate a service advertisement and uses information from the advertisement to access the service. *See, e.g.*, FIGs. 6 – 9, 10a – b, 11b, 15, 18, 25, 32A-B; p. 31, line 6 – p. 32, line 7; and p. 32, lines 9 – 29.

Independent claim 21 is directed to a medium including program instructions that are computer-executable to implement a method similar to that described above regarding claim 1. *See also, e.g.*, p. 167, line 32 – p. 168, line 5.

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

1. Claims 1-9, 11-19 and 21-29 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over the claims of U.S. Patent Number 6,643,650.
2. Claims 10, 20 and 30 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over the claims of U.S. Patent Number 6,643,650 in view of the claims of U.S. Patent Number 6,789,126.
3. Claims 1-5, 7-15, 17-25 and 27-30 are rejected under 35 U.S.C. § 102(e) as being anticipated by Beck et al. (U.S. Patent No. 6604140).
4. Claims 6, 16 and 26 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Beck in view of Official Notice.

VII. ARGUMENT

First Ground of Rejection:

Claims 1-9, 11-19 and 21-29 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over the claims of U.S. Patent

Number 6,643,650. A terminal disclaimer has been filed (mailed March 3, 2006) regarding Patent Number 6,643,650, obviating this rejection.

Second Ground of Rejection:

Claims 10, 20 and 30 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over the claims of U.S. Patent Number 6,643,650 in view of the claims of U.S. Patent Number 6,789,126. The terminal disclaimer noted above also obviates this rejection.

Third Ground of Rejection:

Claims 1-5, 7-15, 17-25 and 27-30 are rejected under 35 U.S.C. § 102(e) as being anticipated by Beck et al. (U.S. Patent No. 6604140). Appellants traverse this rejection for at least the following reasons. Different groups of claims are addressed under their respective subheadings.

Claims 1-3, 7-9, 11-13, 17 - 19, 21-23 and 27-29:

Regarding claim 1, Beck fails to disclose a client reading an advertisement from a space, where the space comprises a network-addressable storage location, wherein the advertisement comprises a Uniform Resource Identifier (URI) and a schema, wherein the URI specifies a network address at which a service may be accessed, and wherein the schema specifies one or more messages usable to invoke one or more functions of the service. Beck teaches a service framework that enables devices to discover and use services over a network. Beck's service discovery is based on periodic multicasting of service descriptors. Beck teaches that an advertiser retrieves a service to advertise, creates a service descriptor and periodically broadcasts the descriptor (Beck, column 3, lines 59-64 and column 4, lines 40-50).

The Examiner cites column 6, lines 1-16 where Beck describes how a client requests usage of a service by querying a service registry. However, Beck does not,

either at the cited passage or elsewhere, mention a *client reading an advertisement from a space*. Instead, Beck teaches at the cited passage that a client furnishes a description of the requested service and that the registry matches this request against service descriptors of known services. If a service descriptor in the registry matches the description of the requested service, the registry verifies that the service is already loaded, and if not, loads the service. Beck does not teach that registry returns to the client the service descriptor, which the Examiner contends is an advertisement. Instead, Beck teaches, “[t]he process of binding a service *terminates* in step 507 where a *reference to the service adaptor is returned* to the client” (emphasis added, Beck, column 6, lines 22-24). Elsewhere Beck teaches that a service adaptor “provides an additional level of indirection between clients and the service” and that the service adaptor is a Java class (Beck, column 5, lines 55-61). Thus, a client in Beck’s system requesting usage of service does not read an advertisement from a space, as suggested by the Examiner. Instead, as noted above, the client queries a service registry to obtain a reference to a service adaptor, which cannot be considered an advertisement as defined in claim 1.

Further in regard to claim 1, Beck fails to disclose where the advertisement comprises a Uniform Resource Identifier (URI) and a schema, where the URI specifies a network address at which a service may be accessed, and where the schema specifies one or more messages usable to invoke one or more functions of the service. The Examiner cites column 4, lines 40-60 of Beck. However, the cited passage does not describe an advertisement that includes a schema that specifies messages usable to invoke functions of a service. Beck teaches that a “service descriptor contains information about the service, including the service name and a description of its function.” Beck also states that an “enhanced service descriptor is a service descriptor that also contains the location of the code implementing the service.” (Beck, column 4, lines 45-50). Beck does not describe a service descriptor as including *a schema specifying messages usable to invoke functions of the service*. Instead, Beck teaches that a client uses a Java interface for a service to call the methods that the service provides (Beck, column 5, lines 42-46 and column 6, lines 29-36). Beck specifically teaches that a client calls a method provided by the service’s interface. Thus, not only does Beck fail to disclose an advertisement that

includes a schema specifying messages usable to invoke functions of the service, Beck describes a Java interface for the service that a “defines the set of operations that the service can perform on behalf of a client” (Beck, column 5, lines 42-43). The service descriptor, which the Examiner equates to the advertisement of Appellants’ claim, clearly does not include a schema specifying messages usable to invoke functions of a service. Moreover, as noted above, Beck’s service descriptor cannot be equated to the advertisement of claim 1 because it is not read by a client from a space, as is explicitly stated in Beck.

Anticipation requires the presence in a single prior art reference disclosure of each and every limitation of the claimed invention, arranged as in the claim. M.P.E.P 2131; *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir. 1984). The identical invention must be shown in as complete detail as is contained in the claims. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). As discussed above, Beck clearly fails to disclose a client reading an advertisement from a space, wherein the space comprises a network-addressable storage location, wherein the advertisement comprises a Uniform Resource Identifier (URI) and a schema, wherein the URI specifies a network address at which a service may be accessed, and wherein the schema specifies one or more messages usable to invoke one or more functions of the service. Therefore, Beck cannot be said to anticipate claim 1. Thus the rejection of claim 1 is not supported by the prior art and removal thereof is respectfully requested. Similar remarks also apply to claims 11 and 21.

Claims 4, 14, and 24:

Regarding claim 4, Beck fails to disclose wherein the schema is **expressed in a data representation language**. The Examiner cites column 5, lines 46-50. However, the cited portion of Beck teaches that a service interface 402 defines the set of operations that the service can perform on behalf of a client and that the service interface is a Java interface. As is well known in the art, a Java interface is not a schema *expressed in a data representation language*. Nowhere does Beck mention any schema expressed in a

data representation language and clearly fails to disclose a schema expressed in a data representation language that is included in an advertisement. Without some teaching of Beck regarding a schema expressed in a data representation language, Beck cannot be said to anticipate claim 4.

Thus, the rejection of claim 4 is not supported by the cited art and removal thereof is respectfully requested. Similar remarks also apply to claim 14 and 24.

Claims 5, 15 and 25:

Regarding claim 5, Beck fails to disclose where the first message is expressed in a data representation language. The Examiner cites column 5, lines 54-61 and column 6, lines 30-39. The cited portions of Beck describe that once a client has bound a service it can use that service by calling a method provided by the service's interface and that the service interface forwards the call to the service implementation that performs the requested service. Beck also teaches that the service interface and the service implementation are Java-based and that the RMI, OSF-RPC and IIOP inter-process communication protocols are used. Beck does not mention anything about a message expressed in a data representation language and clearly fails to disclose wherein a message send by a client to the service is expressed in a data representation language. The Examiner is clearly speculating (which is improper) regarding the details of Beck's messages. As Beck makes no mention of any message expressed in a data representation language, Beck does not anticipate claim 5. Thus, the rejection of claim 5 is not supported by the cited art and removal thereof is respectfully requested. Similar remarks also apply to claims 15 and 25.

Claims 10, 20 and 30:

Regarding claim 10, Beck fails to disclose the client using the URI and the schema in the advertisement to construct a gate for access to the service. The Examiner cites column 7, lines 34 – 44 of Beck. However, this passage of Beck does not describe a client using the URI *and the schema in the advertisement* to construct a gate for access to

the service. First of all, as noted above regarding the rejection of claim 1, Beck fails to disclose a client reading an advertisement that comprises a schema that specifies messages usable to invoke functions of the service. Secondly, nowhere does Beck describe the client using a schema from an advertisement to construct a gate for access to the service. Instead, Beck teaches that the service registry downloads the service interface, adapter and implementation and returns a reference to the client and that the client calls methods provided in the service's interface that forwards the call to the service adapter (Beck, column 6, lines 3-24 and lines 29-44). Beck fails to describe a client using the URI and *the schema* in the advertisement to construct a gate for access to the service. Therefore, the rejection of claim 10 is not supported by the cited art and removal thereof is respectfully requested. Similar remarks apply to claims 20 and 30.

Fourth Ground of Rejection:

Claims 6, 16, and 26 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Beck in view of Official Notice. Appellants traverse this rejection for at least the following reasons.

Claims 6, 16 and 26:

In regard to claims 6, 16 and 26, the Examiner takes Official Notice that "use of XML as a data representation language in network communications systems was well known." Pursuant to M.P.E.P. § 2144.03, Appellants traverse the Examiner's taking of Official Notice in regard to the specific combination of features recited in claims 6, 16 and 26. While the use of XML may have been well known *in other contexts for other purposes*, it was not well known to use XML for expressing messages sent by a client to invoke a service. Pursuant to M.P.E.P. § 2144.03 Appellant asserts that the examiner "must provide documentary evidence ... if the rejection is to be maintained." *See also* 37 CFR 1.104(c)(2), (d)(2) and *In re Zurko*, 258 F.3d 1379, 1386 (Fed. Cir. 2001). The documentary evidence should pertain to the specific limitations recited in 6, 16 and 26, not just XML in general.

Furthermore, the Examiner has failed to provide any motivation whatsoever for combining the teachings of Beck with XML (based on Office Notice) to result in the specific limitations recited in claims 6, 16 and 26. The Examiner merely states, “[s]ince the combination of Beck and Official Notice discloses all of the above limitations, claims 6, 16, and 26 are rejected.” However, obviousness cannot be established by combining or modifying the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion or incentive to do so. *In re Bond*, 910 F. 2d 81, 834, 15 USPQ2d 1566, 1568 (Fed. Cir. 1990). In addition, the showing of a suggestion, teaching, or motivation to combine prior teachings “must be clear and particular Broad conclusory statements regarding the teaching of multiple references, standing alone, are not ‘evidence’.” *In re Dembiczak*, 175 F.3d 994, 50 USPQ2d 1614 (Fed. Cir. 1999). The art must fairly teach or suggest to one to make the specific combination as claimed. That one achieves an improved result by making such a combination is no more than hindsight without an initial suggestion to make the combination. As noted above, the Examiner has failed to provide any motivation for combining Beck and the Examiner’s Official Notice of XML.

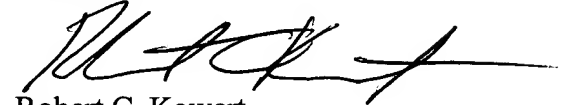
Furthermore, Beck describes a specific Java interface for the service that a “defines the set of operations that the service can perform on behalf of a client” (Beck, column 5, lines 42-43). To modify Beck to use XML messages would be counter to the intended operation of Beck to employ a specific Java interface. If a proposed modification would render the prior art feature unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900 (Fed. Cir. 1984). Accordingly, it would be improper to modify Beck’s teachings to employ XML messages. Thus, the rejection of claims 6, 16 and 26 is not supported by the prior art and removal thereof is respectfully requested.

VIII. CONCLUSION

For the foregoing reasons, it is submitted that the Examiner’s rejection of claims 1-30 was erroneous, and reversal of his decision is respectfully requested.

The Commissioner is authorized to charge the appeal brief fee of \$500.00 and any other fees that may be due to Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C. Deposit Account No. 501505/5181-64900/RCK. This Appeal Brief is submitted with a return receipt postcard.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'R. C. Kowert', with a long horizontal flourish extending to the right.

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Date: March 8, 2006

IX. CLAIMS APPENDIX

The claims on appeal are as follows.

1. A method comprising:

a client reading an advertisement from a space, wherein the space comprises a network-addressable storage location, wherein the advertisement comprises a Uniform Resource Identifier (URI) and a schema, wherein the URI specifies a network address at which a service may be accessed, and wherein the schema specifies one or more messages usable to invoke one or more functions of the service; and

the client sending a first message to the service at the URI, wherein the first message is specified in the schema.

2. The method of claim 1, further comprising:

the service sending a second message to the client in response to the client sending the first message to the service, wherein the second message is specified in the schema.

3. The method of claim 1, further comprising:

invoking one or more functions of the service in response to the client sending the first message to the service.

4. The method of claim 1,

wherein the schema is expressed in a data representation language.

5. The method of claim 1,

wherein the first message is expressed in a data representation language.

6. The method of claim 5,

wherein the data representation language comprises eXtensible Markup Language (XML).

7. The method of claim 1,

wherein the URI comprises an Internet address.

8. The method of claim 1, further comprising:

the service publishing the advertisement in the space.

9. The method of claim 1, further comprising:

the client using a lookup service to find the advertisement in the space.

10. The method of claim 1, further comprising:

the client using the URI and the schema in the advertisement to construct a gate for access to the service.

11. A system comprising:

a client;

a service which is communicatively coupled to the client; and

a space which is communicatively coupled to the client, wherein the space comprises a network-addressable storage location, wherein the space stores an advertisement for the service, wherein the advertisement comprises a Uniform Resource Identifier (URI) and a schema, wherein the URI specifies a network address at which the service may be accessed, and wherein the schema specifies one or more messages usable to invoke one or more functions of the service;

wherein the client is operable to:

read the advertisement from a space; and

send a first message to the service at the URI, wherein the first message is specified in the schema.

12. The system of claim 11,

wherein the service is operable to send a second message to the client in response to the first message, wherein the second message is specified in the schema.

13. The system of claim 11,

wherein one or more functions of the service are invoked in response to the first message.

14. The system of claim 11,

wherein the schema is expressed in a data representation language.

15. The system of claim 11,

wherein the first message is expressed in a data representation language.

16. The system of claim 15,

wherein the data representation language comprises eXtensible Markup Language (XML).

17. The system of claim 11,

wherein the URI comprises an Internet address.

18. The system of claim 11,

wherein the service is operable to publish the advertisement in the space.

19. The system of claim 11,

wherein the client is operable to use a lookup service to find the advertisement in the space.

20. The system of claim 11,

wherein the client is operable to use the URI and the schema in the advertisement to construct a gate for access to the service.

21. A carrier medium comprising program instructions, wherein the program instructions are computer-executable to implement:

a client reading an advertisement from a space, wherein the space comprises a network-addressable storage location, wherein the advertisement comprises a Uniform Resource Identifier (URI) and a schema, wherein the URI specifies a network address at which a service may be accessed, and wherein the schema specifies one or more messages usable to invoke one or more functions of the service; and

the client sending a first message to the service at the URI, wherein the first message is specified in the schema.

22. The carrier medium of claim 21, wherein the program instructions are further computer-executable to implement:

the service sending a second message to the client in response to the client sending the first message to the service, wherein the second message is specified in the schema.

23. The carrier medium of claim 21, wherein the program instructions are further computer-executable to implement:

invoking one or more functions of the service in response to the client sending the first message to the service.

24. The carrier medium of claim 21,

wherein the schema is expressed in a data representation language.

25. The carrier medium of claim 21,

wherein the first message is expressed in a data representation language.

26. The carrier medium of claim 25,

wherein the data representation language comprises eXtensible Markup Language (XML).

27. The carrier medium of claim 21,

wherein the URI comprises an Internet address.

28. The carrier medium of claim 21, wherein the program instructions are further computer-executable to implement:

the service publishing the advertisement in the space.

29. The carrier medium of claim 21, wherein the program instructions are further computer-executable to implement:

the client using a lookup service to find the advertisement in the space.

30. The carrier medium of claim 21, wherein the program instructions are further computer-executable to implement:

the client using the URI and the schema in the advertisement to construct a gate for access to the service.

X. EVIDENCE APPENDIX

No evidence submitted under 37 CFR §§ 1.130, 1.131 or 1.132 or otherwise entered by the Examiner is relied upon in this appeal.

XI. RELATED PROCEEDINGS APPENDIX

There are no related proceedings.